

**What is Claimed:**

1 1. A detection method using a receiver of a digital communication system for the  
 2 detection of a symbol from a received signal, which signal is transmitted by a  
 3 transmitter of the digital communication system, wherein the symbol is a selected  
 4 symbol out of a predetermined set of symbols and wherein each symbol of the  
 5 predetermined set comprises a sequence of chips wherein each of the chips is PSK-  
 6 modulated according to a selected modulation code, wherein the method comprises:  
 7 a set of reference symbols is generating on the basis of the predetermined  
 8 set of symbols and a channel impulse response between the transmitter and the  
 9 receiver, wherein each of the successive parts of the received signal, each part  
 10 having the length of a symbol, is compared with each of the reference symbols,  
 11 yielding a detected symbol for each part of the received signal.

1 2. The method according to claim 1, further comprising the step of generating a  
 2 correction signal on the basis of the detected symbol convolved with the channel  
 3 impulse response, wherein the correction signal is subtracted from the part of the  
 4 received signal which succeeds the part of the received signal corresponding to the  
 5 detected symbol for suppressing the ISI-effect.

1 3. The method according to claim 1, wherein the comparison between each of  
 2 the parts of the received signal with each of the reference symbols is performed by a  
 3 correlator yielding a correlation value, wherein the correlation value is corrected with  
 4 half the energy of the reference symbol.

1 4. A detection method using a receiver of a digital communication system for the  
 2 detection of a symbol from a received signal, which signal is transmitted by a  
 3 transmitter of the digital communication system, wherein the symbol is a selected  
 4 symbol out of a predetermined set of symbols and wherein each symbol of the  
 5 predetermined set comprises a sequence of chips wherein each of the chips is PSK-  
 6 modulated according to a selected modulation code, wherein the method comprises:  
 7 the received signal filtering by a filter which yields a filter signal, wherein the  
 8 filter is a matched filter to the channel impulse response between the transmitter and

9 the receiver, wherein each of the successive parts of the filter signal, each part  
10 having the length of a symbol, is compared with each of the symbols from the  
11 predetermined set of symbols yielding a detected symbol for each part of the filter  
12 signal.

1 5. The method according to claim 4, further comprising the step of generating  
2 a correction signal on the basis of the detected symbol, wherein the  
3 correction signal is subtracted from the part of filter signal which succeeds the part  
4 of the filter signal corresponding to the detected symbol for suppressing the ISI-  
5 effect.

1 6. The method according to one of the claim 4, wherein the comparison,  
2 between each of the parts of the filter signal with each of the reference symbols, is  
3 performed by a correlator yielding a correlation value, wherein the correlation value  
4 is corrected with half the energy of the reference symbol.